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A psychiatric mother-baby day hospital for pregnant and postpartum women

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Summary

Major depression and other psychiatric disorders are common during pregnancy and the postpartum period, yet these disorders remain largely under-diagnosed and under-treated. Developing programs that are uniquely tailored to meet the needs of perinatal psychiatric patients can improve both the quality and acceptability of care. In this report, we describe the development and implementation of a novel mother-baby day hospital service designed to meet the mental health needs of this special population, and present preliminary data regarding treatment acceptability and effectiveness. Our experience using this model of care for the past five years has suggested that specialized units such as this one represent an acceptable, effective, fiscally viable approach to the care of pregnant and postpartum psychiatric patients. Further research is needed to more thoroughly assess the effectiveness of this type of specialized perinatal service.

Keywords: Postpartum depression; pregnancy; perinatal psychiatric disorders; mother-baby units; partial hospital.

Introduction

Women are more likely to suffer from mood disorders during pregnancy and for up to one year postpartum than at any other time in their lives (Kendell et al, 1987). Major depression is indeed the most common postpartum complication women experience, including both physical and psychiatric sequalae, affecting approximately 15 percent of childbearing women (O'Hara et al, 1990). Postpartum depression is known to adversely impact the emotional and cognitive functioning of the developing infant (Murray et al, 1996), interfere with maternal-infant interactions (Herrera et al, 2003), and predict future emotional and behavioral problems in school age children (Cogill et al, 1986). Depression during pregnancy is also prevalent (Gotlib et al, 1989), and is associated with poor nutrition and use of nicotine, alcohol, and drugs (Zuckerman et al, 1989), negative health behaviors linked to premature delivery and low birth weight.

Despite the growing body of evidence that documents the prevalence of perinatal mood disorders and other psychiatric problems during pregnancy and postpartum, such disorders remain largely under-diagnosed and under-treated (Cox et al, 1982; Whitton et al, 1996). Our culture defines pregnancy and motherhood as a time of fulfillment and joy, leading many women to feel reluctant to disclose symptoms of depression or problems with attachment to their newborn. In addition, many caregivers neglect to screen for depression or other psychiatric problems. In light of the prevalence and debilitating nature of perinatal mental health problems and the difficulty that women have receiving appropriate care, we believe a pressing need exists for innovation in how mental health care services are provided for pregnant and postpartum women. Specialized programs can make treatment more accessible by addressing concerns that lead some women to feel reluctant to seek care, for example separation from infants during the course of treatment. In this paper, we describe a novel mother-baby day hospital program that has been successful in providing psychiatric care for pregnant and postpartum patients for over five years. After presenting a rationale for specialized units to treat pregnant and postpartum women, we detail our program's

development and current structure, and summarize our experiences with developing services for this patient population.

Why develop a specialized service for perinatal women?

The United States (US) has historically lagged behind Great Britain and other developed nations in the recognition and treatment of perinatal psychiatric disorders (Stewart, 1989). Unlike Great Britain and several other developed nations, the US lacks specific laws pertaining to women who commit crimes during the postpartum period (e.g. infanticide). Thus, while reasons for the different approaches to perinatal mental health care are not entirely clear, one could speculate that because women in other countries have historically been more likely to be legally sentenced to psychiatric treatment rather than prison, a greater recognition existed regarding the need for dedicated mother-baby psychiatric units. In recognizing the unique features and debilitating nature of perinatal mental health problems, these countries have therefore implemented specialized approaches to care, most notably by establishing dedicated units serving women with their infant children. Originally pioneered by British psychiatrist T. F. Main in 1948, the practice of joint admission of mothers with infant children was an innovation prompted by concerns about disrupting mother-infant relations during periods of intensive psychiatric treatment (Brockington, 1996). The first joint mother-baby admission occurred in England over 50 years ago, and since that time additional units have opened in Great Britain as well as other developed nations including Australia (Buist et al, 2005), New Zealand (Wilson et al, 2005), the Netherlands (Klompenhouwer & van Hulst, 1991), Germany (Hornstein et al, 2005), France and Belgium (Cazas & Glangeaud-Freudenthal, 2004). There is also anticipated opening of a mother-baby unit in Luxembourg (Cazas & Glangeaud-Freudenthal, 2004).

While the primary rationale for combined mother-baby units has been to promote healthy maternal-child relationships and minimize disruption in breastfeeding, several other clinical and practical benefits are apparent. An important advantage is the ability for clinicians to directly observe interactions between mothers and infants so areas of difficulty can be addressed via supportive guidance and modeling of appropriate infant care. This is particularly useful for some women, for whom the presence of the baby prompts manifestation of clinical symptoms (e.g. heightened anxiety or obsessive thoughts). Mother-baby units can help to minimize the potential for severely depressed mothers to avoid their infants, and gives highly anxious mothers the opportunity to gain experience allowing others to care for the infant. Another benefit of these specialized units is the opportunity for women to interact with a group of other patients confronting similar concerns. The social support and normalization inherent in this setting can be tremendously helpful to perinatal patients, many of whom feel ashamed, guilty, and reticent to admit to their distress. Finally, on a practical level, mother-baby units allow mothers, who are frequently primary caretakers of infants, to maintain this family role rather than assign it to another family member.

Although there are many benefits of joint admission, barriers can limit implementation of such programs. One concern is the possibility of increased health risks to the infant if admitted to a hospital setting (i.e., exposure to infectious disease). Another barrier is the additional space and staffing required for accommodating the care of infants. Finally, an important obstacle is difficulty obtaining approval and financial reimbursement by insurance companies due to lack of familiarity with this approach. To the knowledge of the authors, there are no inpatient mother-baby units in the US, and there is one established mother-baby day hospital program, the one described in the present report. Wisner et al (1996) have articulated the clinical problems and dilemmas that exist because of the lack of mother-baby units. Although mother-baby units are still relatively new and require empirical evaluation, several reports have provided preliminary evidence suggesting that this form of treatment is effective and acceptable to patients (Boath et al, 2003). To begin addressing the mental health needs of perinatal women in the US using this approach, a mother-baby psychiatric day hospital was established under the auspices of a university-affiliated obstetrical hospital in Providence, Rhode Island.

Early program development

Prior to opening the Day Hospital (DH), we embarked upon a process to document the clinical need, practical feasibility, and fiscal viability of the program. The key elements of this process were: 1) identifying a clear rationale; 2) evaluating clinical demand in our area; and 3) assessing feasibility of the DH by consulting with members of local stakeholder groups.

Articulating the program's rationale

In our rationale for the DH, we emphasized three points: First, we stressed that perinatal psychiatric illness is

highly prevalent yet seriously under-treated. Second, we emphasized the known risks to mother, infant, and family associated with depression, the most common perinatal disorder. Third, we reasoned that providing mental health services within an obstetric setting is advantageous given that obstetrician-gynecologists or primary care providers often provide the first or only mental health treatment for many pregnant and postpartum women. By providing psychiatric care within the infrastructure of the obstetrical setting, it would convey to the women who became our patients that their psychiatric treatment was a component of their obstetrical experience (pregnancy and/or childbirth). The actual setting of the Day Hospital program is on the campus of the main obstetrical hospital but in a separate building. Although we originally conceptualized the program as providing care only to postpartum women, we reasoned that serving pregnant women with depression and other mental health problems was also essential given the serious nature of these disorders, and because early treatment during pregnancy could possibly prevent the development of more severe postpartum illnesses. Thus, we defined the program's mission as serving the unique needs of women suffering from depression or other psychiatric disorders during pregnancy or following childbirth, in a supportive and familiar setting, with a commitment to providing integrated care to mothers and their newborn children.

Evaluating clinical demand

Although clinical need for a mother-baby day hospital is likely to exist in many locales, it is only feasible to establish a separate service in locations where the population density provides sufficient and ongoing demand. Hospitals located in rural or small town settings may not have adequate clinical demand to warrant development of a specialized mother-baby unit. In order to demonstrate feasibility in our area, we assessed patient flow at the obstetric hospital where we intended to base our service, and found that there were a sufficiently large number of patients to keep the DH well utilized. Specifically, by extrapolating from conservative prevalence estimates regarding the rates of depression, the most common perinatal mental illness, we estimated that roughly 10% of the 9000 women who delivered their infants at the hospital each year would be likely to meet criteria for admission. In addition, because the hospital had an existing psychiatric consultation-liaison (CL) service, a mechanism was already in place to identify patients in need of care. Moreover, discussions with CL staff revealed that although obstetric patients were often referred to a local psychiatric day hospital following discharge, patients frequently did not follow through and cited separation from their infants as a reason for non-compliance.

Collaborating with stakeholders

Perhaps most importantly, during the development of program, we consulted with members of local stakeholder groups to discuss the proposed program and clarify its role in relation to existing hospital and community-based services. Without involvement and support of these groups – hospital administrators, representatives from relevant hospital departments, state and private insurers – the program would have been unlikely to become a reality. Over a period of three years, numerous meetings took place to explain the rationale for the DH and share our vision for its implementation; during this time we also gathered suggestions from others to help shape the DH. Because cost is an important consideration for hospital administrators and insurers, we noted during these discussions that psychiatric day hospitalization is recognized as a generally effective approach that is less costly than inpatient treatment (Mazza et al, 2004). Based on data collected from a local psychiatric facility regarding the actual cost of treating postpartum women during a one-year time period, we presented our own calculations estimating that the program would amount to a cost savings of approximately 50% in comparison to traditional inpatient treatment. Ultimately, a culminating meeting was held that included our state's Director of Human Services and the Medical and Executive Directors of all private insurers for the state. At the conclusion of this meeting, state and private insurers expressed philosophical support for the DH, as well as willingness to contract for the delivery of psychiatric services to pregnant and postpartum women. In our negotiations with insurers, we clearly outlined that only the mothers (not their infants) would be considered the insured "patients" and the cost of infant care would be included in the overall fee for the program for postpartum patients. The contractual and philosophical commitment expressed by statewide insurers, as well as the states Director of Human Services, was critical in our developing a thriving, sustainable program.

A description of the DH program

Structure and theoretical orientation

The core elements of the DH program are group psychotherapy, individual psychotherapy, pharmacological intervention (as appropriate), family psychoeducation

and counseling, and observation and support of the mother-infant dyad. Consultation with specialists in nutrition, lactation, health education, and infant development are also available on-site. The program is designed for an average stay of approximately seven days and can accommodate a daily census of up to eight women. It is expected that at the time of discharge, a woman's functional status has improved to the point of readiness for weekly outpatient care along with additional outpatient supports as needed. There are five full-time clinicians and one to two trainees (social work, psychiatry, psychology) at any given time. Clinical staff includes two clinical social workers, one clinical nurse specialist, one psychologist and one psychiatrist. There is also a full-time nursery attendant, receptionist, and office practice manager. Each day begins with a morning psychotherapy group that consists of a review of patients' progress on the previous day's goals and an in-depth discussion of role transitions and interpersonal issues. Individual psychotherapy and medication management appointments follow the morning group. Next, women participate in experiential training in relaxation skills or infant massage, depending on their individual treatment plan. Finally, women participate in the last psychotherapy group of the day, which is more didactic in its orientation and focuses on building specific skills (e.g., communication, anger management). Over the course of the day, considerable flexibility exists so that postpartum women may alternate between keeping their babies with them during treatment sessions, and allowing the nursery attendant to provide infant care. Thus, mothers may care for, and nurse, infants as needed without disrupting their participation in treatment. The theoretical approach utilized at the DH program is largely based upon the cognitive-behavioral therapy (CBT) and interpersonal psychotherapy (IPT) models in light of the documented efficacy of these approaches, in particular the efficacy of IPT in treating postpartum depression (O'Hara et al, 2000). The specific components of IPT that we draw upon most heavily are adjustment to recent role transitions, coping with loss and grief, and addressing interpersonal deficits.

Procedure for referral, admission, and discharge

Women are referred to the DH from a variety of sources, including obstetricians, nurse midwives, primary care providers, pediatricians, other mental health providers, self-referrals, and third-party providers. Many referrals come from the affiliated outpatient behavioral health service and inpatient psychiatric CL service at the hospital.

When a woman is referred, she is evaluated within 72 hours by a member of the DH treatment team to determine whether the program is appropriate. Evaluation consists of a semi-structured clinical assessment and administration of the Edinburgh Postnatal Depression Scale (EPDS; Cox et al, 1987), the Postpartum Bonding Instrument (Brockington et al, 2001) and a demographic questionnaire. Women who pose imminent danger to themselves, their infants, or others, or women who are floridly psychotic, are transferred to an inpatient facility. Women who do not pose an imminent threat but whose functioning is severely compromised are admitted to the DH; these women typically begin the program immediately following evaluation, or the next morning. Women who are symptomatic but functioning reasonably well, have good attachment to their infants, and are free of severe neurovegetative symptoms are referred to an appropriate outpatient provider. Women with active substance abuse either begin treatment initially at the DH and are later referred for specialized treatment, or are referred directly to our hospital's intensive outpatient program designed for pregnant or postpartum substance-abusing women.

After discharge from the DH, women begin individually tailored follow-up plans that are set-up prior to her actual discharge. Outpatient treatment plans are designed to address the uniqually identified clinical needs of each woman and are likely to include individual psychotherapy, couples or family psychotherapy, group therapy and pharmacotherapy. Emphasis is placed upon referring women to providers in the community who are experienced in treating pregnant and lactating women. In addition, patients may attend a 6-week aftercare psychotherapy group offered at the DH designed to provide support as well as reinforce new skills acquired by graduates of the program. Most graduates of the DH program attend this group weekly along with their weekly individual treatment.

Current status, effectiveness, and acceptability of the program

To date, the DH Program has treated over 1400 perinatal women. These patients are racially, ethnically, and financially diverse. Approximately two thirds of women treated in the DH are postpartum and the remainder, pregnant. While major depression represents the primary diagnosis for which women seek treatment, women with a variety of other disorders (e.g., panic disorder, adjustment disorders, PTSD) are also treated. A description of the presenting characteristics of patients seen at both the

DH and an affiliated outpatient service has been previously reported (Battle et al, 2006).

The effectiveness of the DH has not been formally assessed via a randomized controlled trial. However, to provide a preliminary indication of effectiveness, for an earlier study (Battle et al, 2006) we obtained approval from the hospital's Institutional Review Board (IRB) to analyze pre- and post-treatment depression symptom scores collected from a subset of women who were treated at the DH between 2001–2002. The EPDS (Cox et al, 1987) is a widely used self-report scale validated as a method to assess depressive symptoms not only during the postpartum period, but also during pregnancy (Murray & Cox, 1990). Respondents indicate the extent to which they agree with 10 statements, such as "*I have been so unhappy that I have been crying*" and "*I have blamed myself unnecessarily when things went wrong.*" This measure is routinely administered at treatment intake, and at treatment discharge, when possible. The standard cut-off point used to indicate possible major depression is $\geq$13. We examined the EPDS scores obtained at treatment intake and treatment discharge within a sample of 81 pregnant and postpartum DH patients seen during 2001–2002 who had both pre-treatment and post-treatment EPDS scores available. In this sample of women, significant reductions in depressive symptoms were observed. Specifically, on average, patients' depression scores dropped from 20.9 ($\pm$4.9) points at intake, to an average score of 12.0 ($\pm$5.2) points at discharge, representing a statistically significant mean reduction in symptoms ($t(80) = 13.2$, $p < 0.001$). In addition, we used Jacobson et al's (1991) method for evaluating the clinical significance of treatment change, a procedure recently applied to the EPDS by Matthey (2004). This approach classifies individuals into one of four categories: (1) *recovered*, defined as a reliable change of 4 or more points in which the EPDS score is in the depressed range (>13) at pre-treatment and <12 at post-treatment; (2) *improved (but not recovered)*, defined as a reliable change of 4 or more points in which the EPDS score is reduced yet still in the depressed range (>13) at post-treatment; (3) *deteriorated*, defined as a reliable change of 4 or more points in the EPDS score became more elevated over the course of treatment; (4) *no reliable change*, defined as a change in EPDS score less than 4 points over the course of treatment. Comparing their pre-vs. post-treatment depressive symptom levels, we determined that 53.2% of the patients in this sample (42/79) would be categorized as *recovered*, 25.3% (20/79) would be classified as *improved (but not recovered)*, and 21.5% (17/79) as experiencing *no reliable change*. No patients in this sample showed evidence of clinical deterioration. Although we cannot be certain that patients' improvement is attributable to DH treatment, the fact that the majority of women in this sample showed clinically significant improvement is encouraging.

We also assessed the acceptability of the program by analyzing anonymous patient satisfaction data obtained from a subset of DH patients who completed the program. In order to provide an ongoing mechanism evaluate patient satisfaction with the DH program, the DH director and staff developed a brief program evaluation survey composed of forced-choice and open-ended items designed to assess patient satisfaction; the survey is administered within a week of discharge. Because the survey is optional for patients to complete and return, completed satisfaction surveys are not available for all patients who take part in the program. Following IRB approval, we analyzed all responses collected between 2001–2004 and found that patients who returned the survey generally reported a high level of satisfaction with the care received at the DH. Specifically, over 96% of these DH patients stated the program was helpful (364/378 respondents); 99% noted that staff respected their wishes and needs (374/378 respondents); 86% were comfortable with contact made to their family member (267/311 respondents); 97% felt satisfied with care given to their child (223/231 respondents); 92% reported currently using skills learned at the DH (348/377 respondents); finally, 98% stated that would recommend the program to others (367/375 respondents).

Recommendations and conclusion

The mother-baby DH program described in this report has been in existence for over five years and during this time we have been encouraged to see this model of care embraced by patients as well as local medical providers, administrators, and insurers. Since the inception of the program, we have received numerous inquiries from mental health professionals from across the U.S. who are interested in developing specialized services to treat perinatal psychiatric disorders. This has suggested to us that growing interest exists in developing new types of programs for pregnant and postpartum women. While we have been fortunate to establish and sustain a specialized service for perinatal psychiatric disorders, we recognize that not all communities will be able to maintain such a program, even if some clinical need exists. Careful analysis of the clinical demand, current resources, and level of local interest may help determine whether such a program is likely to be successful. To that end, we

recommend collaborating with local hospital administrators, medical directors, and insurance company representatives if attempting to start a specialized perinatal service.

When a separate program is not possible, existing psychiatric services may be able to promote improvements in their care of perinatal patients in other ways, such as by providing educational workshops for mental health providers and community members regarding the prevalence, signs, and symptoms of perinatal disorders; by maintaining up-to-date referral lists of local providers with expertise in providing psychotherapy and pharmacotherapy to these populations; and by informing patients and family members about relevant national advocacy groups (e.g., Depression After Delivery, Postpartum Support International).

The field of psychiatry has demonstrated a growing awareness of women's perinatal mental health needs; accordingly, greater emphasis is now placed upon screening for depression and other disorders among pregnant and postpartum women at routine primary care appointments. Over the past five years, we have found a specialized, mother-baby day hospital service to be a fiscally viable, clinically effective, and acceptable approach in treating pregnant and postpartum psychiatric patients. We are hopeful that future research, in conjunction with innovations in service delivery, will continue to enhance women's psychiatric care during the perinatal period.

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